ABSTRACT OF THE DISCLOSURE

The invention is concerned with the mapping of m input bits to 2^m modulation symbols of a two-dimensional symbol constellation. A quarter-quadrant constellation of 2^{m-4} modulation symbols that are located in a first quadrant of the two-dimensional signal plane is formed with each modulation symbol associated with a respective m-4 bit label. A quarter constellation of the two-dimensional symbol constellation is formed by adding to the quarter-quadrant constellation three copies of the quarter-quadrant constellation rotated by -90 degrees, 180 degrees, and -270 degrees, respectively, and then displacing the quarter constellation by a shift value Δ, with each modulation symbol associated with a respective m-2 bit label. The two-dimensional symbol constellation is then formed by adding to the quarter constellation three copies of the quarter constellation rotated by +90 degrees, 180 degrees, and +270 degrees, respectively. Each symbol of the two dimensional constellation is associated with a respective m bit label of the m input bits.